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LABORATORY  
OF THE  
INLAND REVENUE DEPARTMENT

OTTAWA, CANADA

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BULLETIN No. 108

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VINEGAR

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VINEGAR

OTTAWA, ONT., September 15, 1905.

W. J. GERALD, Esq.,  
Deputy Minister of I.R.D.

DEAR SIR,—I beg to submit you, herewith, a report upon 242 samples of Vinegar, collected throughout the Dominion in July of this year, in accordance with your instructions.

The first object had in view in the present examination was the question of metallic impurity. Iron is a normal component of vinegars, particularly of dark coloured vinegars, and it is moreover, quite harmless, so that the more or less distinct traces of iron noted by the analyst may be ignored. The only metals found in these samples, and having objectionable qualities from the standpoint of wholesomeness, are *lead* and *zinc*. These metals have been found, in minute traces, in 14 samples as follows:—

Traces of lead .....	in 12 samples.
"      zinc .....	"      2      "

In no case has the quantity present been large enough to constitute adulteration, or to give any ground for alarm as regards wholesomeness.

Dr. Donald finds notable amounts of sulphates and chlorides in the following samples:—

21826 .....	contains 2.22 p.c. acetic acid.
21874 .....	"      7.68 "      "
21798 .....	"      5.40 "      "
23984 .....	"      6.60 "      "
27554 .....	"      9.15 "      "
24541 .....	"      5.16 "      "
108—1½	3

and he suggests that these substances may be due to the water used in their manufacture, or to crude acetic acid added to the vinegars in question. Many natural waters contain sufficiently high sulphates and chlorides to account for the presence of these substances in vinegar made with their use.

Dr. Donald's second suggestion is worthy of consideration, and its probability receives some support from a study of the acetic acid percentage present in these samples. This varies from as low as 2.22 to as high as 9.15 per cent. The wide variation of acetic acid strength in the vinegars of this collection, goes far to support the suspicion that many of them are mere dilutions of acetic acid.

We have no recognized acetic acid strength for genuine vinegar. The British Pharmacopoeia of 1885 defined vinegar as containing 5.41 per cent of acetic acid. The last edition of the Pharmacopoeia (1898) omits any official definition of the article. Proof vinegar of the Inland Revenue contains 6 per cent of acetic anhydride, equivalent to 7.06 per cent of acetic acid. Commercial vinegar, made by fermentation and acetification of saccharine liquids, or by direct acetification of dilute alcohol, seldom contains 7 per cent of acetic acid. In support of this assertion I may quote from 'König' (Zusammensetzung der menschlichen Nahr. & Genussmittel, 1903).

Mean of 17 samples Wine—Vinegars . . . . .	5.07	p. c.	acetic acid.
" 13 " " " " . . . . .	6.56	"	"
" 22 " Malt " " . . . . .	4.46	"	"
" 4 " Cider " " . . . . .	6.19	"	"

The last report on vinegars issued from this Laboratory, gave the analysis of 93 samples, (see Bull. 35—1893) and these were found to contain from 2.86 p. c. to 7.99 per cent of acetic acid, the averages being as follows:—

Districts.	Sample.	Mean Acetic Acid.
		p. c.
Nova Scotia . . . . .	19	4.01
Quebec . . . . .	23	6.11
Ontario . . . . .	39	5.32
Manitoba . . . . .	12	5.09
	93	

Average for the Dominion=5.13 p. c. acetic acid.

A similar tabulation of the 242 samples now reported, shows the following:—

Districts.	Sample.	Mean Acetic Acid.
		p. c.
Nova Scotia . . . . .	20	4.42
New Brunswick . . . . .	20	5.02
Prince Edward Island . . . . .	20	5.02
Quebec . . . . .	20	6.67
St. Hyacinthe . . . . .	20	5.91
Montreal . . . . .	20	5.72
Kingston . . . . .	20	5.18
Toronto . . . . .	20	4.76
London . . . . .	20	5.06
Manitoba . . . . .	20	6.60
Calgary . . . . .	20	7.19
British Columbia . . . . .	22	6.40
Dominion . . . . .	242	5.66

It appears from this tabulation that the mean strength of vinegar as sold in Canada in 1905, is distinctly higher than in 1893. The change is, however, more marked if comparison be made as in the following table:—

District.	Below 3 p. c.	From 3 to 4 p. c.	From 4 to 5 p. c.	From 5 to 6 p. c.	From 6 to 7 p. c.	Above 7 p. c.	Remarks.
1893.							p. c.
Nova Scotia.....	1	10	6	1	1	0	
Quebec.....	1	1	0	11	7	3	7.41, 7.80, 11.14.
Ontario.....	0	2	14	16	5	2	7.99, 7.27.
Manitoba.....	0	3	3	4	0	2	7.96, 7.42.
1905.							
Nova Scotia.....	2	7	6	3	1	1	8.30.
New Brunswick.....	1	5	6	1	5	2	7.50, 7.04.
Prince Edward Island	0	7	4	5	1	3	7.98, 9.72, 7.07.
Quebec.....	0	0	0	6	9	5	9.04, 7.40, 9.15, 9.26, 7.07.
St. Hyacinthe.....	0	0	6	3	8	3	7.20, 7.92, 7.30.
Montreal.....	0	0	4	9	6	1	7.74.
Province of Quebec.	0	0	10	18	23	9	
Kingston.....	0	0	10	7	2	1	7.68.
Toronto.....	2	1	8	8	1	0	
London.....	0	2	9	7	1	1	9.20.
Province of Ontario	2	3	27	22	4	2	
Manitoba.....	0	0	8	3	3	6	12.60, 10.80, 10.92, 8.88, 7.82, 7.60.
Calgary.....	1	1	2	6	1	9	9.69, 8.94, 10.38, 9.93, 11.04, 10.56, 11.97, 7.68, 9.48.
British Columbia.....	1	1	8	4	0	8	9.78, 9.71, 9.30, 10.86, 9.77, 9.06, 9.00, 10.56.

A study of this table shows that, by provinces, the percentage of samples of vinegar containing more than 7 per cent of acetic acid, is as follows:—

Nova Scotia.....	5 p. c.	Ontario.....	3 p. c.
New Brunswick.....	10 p. c.	Manitoba.....	30 p. c.
Prince Edward Island	15 p. c.	North-west Territories	45 p. c.
Quebec.....	15 p. c.	British Columbia.....	37 p. c.

It is apparent that by far the larger number of highly acid vinegars are sold in the provinces of Manitoba, British Columbia and the North-west Territories. It is known that a substance sold as concentrated vinegar, or some equivalent name, finds a market in the west. A sample of this article (see file 90457) was examined in this laboratory in May of this year, and was found to contain 55.2 per cent of acetic acid. In reporting on this article Mr. Macfarlane says: 'I am of opinion that this sample is a preparation from concentrated acetic acid, and that it would give, on dilution, a factitious vinegar, which it would be impossible to distinguish from the genuine article.' It seems to me quite probable that the samples giving such abnormally high acid strength are made from this or similar concentrates, if not, then acetic acid has been added to a normal vinegar in order to give it the acid value found.

In the absence of a standard for acetic acid strength, I am unable to pronounce any opinion upon the samples, in this regard. I have, however, considered it as beyond cavil, that samples containing less than 3 per cent of acetic acid are objectionable, as being too weak; while such as contain more than 8 per cent are probably fortified by addition of acetic acid, and therefore factitious.

Where the name of no analyst is given, the work has been done in this laboratory. I would respectfully recommend that this report be published as Bulletin 108.

I have the honour to be, sir,

Your obedient servant,

A. MCGILL,

*Acting Chief Analyst.*

TABLE I.—INSPECTION OF VINEGAR—JULY, 1905.

Date of Collection.	Collector's Number.	Serial Number.	Name and Address of Vendor.	Cost per qt.	Remarks.
<i>District of Nova Scotia—R. J. Waugh, Inspector.</i>				¢ cts.	
July 13	27003	1	De Wolf & Lamont, Kentville, N.S.	0 08	
" 13	27005	2	Wm. Smith "	0 10	
" 14	27006	3	S. L. Cross "	0 10	
" 14	27010	4	B. H. Dodge "	0 10	
" 14	27013	5	R. E. Harris, Wolfville.	0 10	
" 14	27016	6	T. L. Harvey "	0 10	
" 15	27018	7	Wentworth Stores, Windsor, N.S.	0 10	
" 15	27019	8	John Lynch & Sons "	0 10	
" 15	27022	9	John Riley "	0 10	
" 15	27024	10	Shoud Bros. "	0 10	
" 18	27026	11	H. C. Barnaby & Sons, Bridgewater.	0 10	
" 18	27029	12	D. McKay, Bridgewater	0 10	
" 19	27032	13	J. B. Holden, Lunenburg, N.S.	0 10	
" 19	27037	14	A. Cossmann, Newton, N.S.	0 10	
" 21	27040	15	Walker & Honsam, Truro, N.S.	0 10	
" 21	27042	16	W. H. Snook & Co. "	0 10	
" 21	27045	17	Ryan Bros. "	0 10	
" 25	27051	18	Brown & Webb, Halifax	0 10	
" 26	27055	19	Simpson Bros., Ltd.	0 10	
" 26	27057	20	H. W. Wentzall "	0 10	
<i>District of New Brunswick—J. C. Ferguson, Inspector.</i>					
June 26	24016	1	Excelsior Vinegar Co., Ltd., St. John, N.B.	0 20	
" 27	24017	2	Thos. McCready & Son, Ltd. "	0 20	
" 27	24020	3	Excelsior Vinegar Co., Ltd. "	0 20	
" 27	24021	4	" " " " "	0 20	
" 30	24030	5	Geo. A. Troop & Co., Ltd., 284 Pitt St., St. John, N.B.	0 20	
July 5	24037	6	William Baxter, 73 Pitt St., St. John, N.B.	0 20	
" 6	24038	7	John H. Walker, 149 King E. "	0 20	
" 7	24042	8	Geo. G. Kierstead, 641 Main St. "	0 20	
" 10	24044	9	Joshua E. Cowan, North End, 99 Main St., St. John, N.B.	0 10	
" 10	24045	10	Day & Crabb, 151 Mill St., St. John, N.B.	0 20	
" 11	24047	11	A. E. Trentowski, 51 1/2 Cobourg St., St. John, N.B.	0 10	
Aug. 22	24074	12	W. B. McKay & Co., " St., Sussex, K.C., N.B.	0 20	
" 23	24077	13	Stanley C. Groggin, " St., Petticoat, Westmoreland Co., N.B.	0 20	
" 25	24083	14	R. A. McLenn, 213 Main St., Moncton, N.B.	0 20	
" 25	24084	15	Cassidy & Bellevue, Main St. "	0 20	
" 25	24085	16	H. T. Brewster " "	0 20	
" 25	24087	17	J. T. Rye " "	0 20	
" 28	24092	18	Holdengren & Rosenberg, cor. St. George and King Sts., Bathurst, N.B.	0 10	
" 29	24096	19	Miller Bros., Castle St., Newcastle, N.B.	0 20	
" 30	24100	20	E. A. Strang, Castle St., Chatham, Northumberland Co., N.B.	0 10	
<i>District of Prince Edward Island—T. Moore, Inspector.</i>					
June 27	24435	1	Sterns & Son, Souris.	0 10	
" 27	24437	2	A. Currie " "	0 10	
" 27	24441	3	Matthew & McLean, Souris.	0 16	
" 27	24443	4	Sterns Bros. " "	0 20	
" 28	24447	5	John McKenna, Charlottetown.	0 12	
" 28	24451	6	R. F. Maddigan " "	0 10	
" 28	24455	7	Sanderson & Co. " "	0 16	
" 28	24459	8	Jenkins & Son " "	0 12	
" 28	24462	9	A. Gates & Co. " "	0 10	
" 28	24465	10	Beer & Goff " "	0 12	



TABLE I.—INSPECTION OF VINEGAR—JULY, 1905—Continued.

Date of Collection.	Collector's Number.	Serial Number.	Name and Address of Vendor.	Cost per qt.	Remarks.
<i>District of Prince Edward Island—T. Moore, Inspector—Concluded.</i>				8 cts.	
July	5	24470	11 J. H. Myrick, Alberton.....	0 10	
"	5	24472	12 J. E. Birch ".....	0 10	
"	6	24474	13 R. T. Holman, Summerside.....	0 16	
"	6	24476	14 Brace & McKay ".....	0 20	
"	6	24479	15 Waugh & Steeves ".....	0 20	
"	6	24481	16 Sinclair & Stewart ".....	0 12	
"	6	24483	17 A. J. Grant, Mount Stewart.....	0 12	
"	6	24485	18 W. W. Jenkins, Georgetown.....	0 10	
"	6	24488	19 John Knight ".....	0 20	
"	10	24493	20 Edmond Toombs, Charlottetown.....	0 10	
<i>District of Quebec—C. E. Roy, Inspector.</i>					
July	20	27548	1 J. O. Poliquin, Montmagny.....	0 12	
"	21	27549	2 Nap. Belanger ".....	0 18	
"	21	27550	3 J. G. Fournier ".....	0 14	
"	21	27551	4 A. Lemieux, L'Islet.....	0 12	
"	21	27552	5 Frs. Lavallée, St. Jean, Port Joli.....	0 14	
"	21	27553	6 A. Morin ".....	0 14	
"	21	27554	7 L. A. Paquette, Ste. Anne de la Pocatière.....	0 16	
"	22	27555	8 J. B. V. Chamberland, Rivière du Loup.....	0 20	
"	22	27556	9 V. Deverast, Rivière du Loup.....	0 16	
"	20	27545	10 A. Convey, 97 Sault du Matelot, Quebec.....	0 14	
"	20	27546	11 L. Mercier & Cie, 113-7 St. Paul.....	0 20	
"	20	27547	12 J. A. Chabot, 271 St. Joseph ".....	0 20	
Aug.	10	27563	13 Mde. Anmt. Baril, Limoilou.....	0 20	
"	11	27564	14 Odias Letourneau, Rue Massue, St. Malo, Que.....	0 12	
July	24	27557	15 J. A. Peltier, Chicoutimi.....	0 30	
"	24	27558	16 Tessier & Petit ".....	0 15	
"	25	27559	17 Jos. Brassard, Roberval.....	0 10	
"	25	27560	18 Oyamel & Cie ".....	0 16	
"	25	27561	19 V. Charrier & Cie, Lévis.....	0 14	
"	27	27562	20 Nap. Lamontagne, Pt. Lévis.....	0 10	
<i>District of St. Hyacinthe—J. C. Rouleau, Inspector.</i>					
June	22	24532	1 E. J. Pearson, Richmond.....	0 14	
"	22	24533	2 H. C. Atkinson, Melburne.....	0 10	
"	22	24534	3 Tobin & Chamberlain, Brampton Falls.....	0 12	
"	22	24535	4 L. O. Pepin & fils, Arthabaskaville.....	0 20	
"	23	24536	5 L. P. St. Pierre, Three Rivers.....	0 20	
"	23	24537	6 H. Rivard & Cie ".....	0 16	
"	23	24538	7 T. Bournival ".....	0 14	
"	23	24539	8 L. Bumelle & Freres ".....	0 16	
"	24	24540	9 Alfred Lavalee, Berthierville.....	0 12	
"	24	24541	10 W. Laplume ".....	0 20	
"	24	24542	11 L. H. Paquin, Sorel.....	0 10	
"	26	24543	12 P. P. Lanoie, St. Aimé.....	0 10	
"	26	24544	13 M. L. Peloquin, ".....	0 16	
June	26	24545	14 Amedé Joyal, St. David, Yamaska.....	0 12	
"	26	24546	15 Geo. Beaulac, Sorel.....	0 10	
"	26	24547	16 Ed. Collette, Verchères.....	0 14	
"	26	24548	17 H. Marchessault, St. Ours, Richelieu.....	0 16	
"	28	24549	18 Petit frères, St. Hyacinthe.....	0 14	
"	28	24550	19 J. N. Turcotte, Drummondville.....	0 16	
"	28	24551	20 E. O. Piché ".....	0 14	

TABLE I.—INSPECTION OF VINEGAR—JULY, 1905—*Continued.*

Date of Collection.	Collector's Number.	Serial Number.	Name and Address of Vendor.	Cost per qt.	Remarks.
<i>District of Montreal—J. J. Costigan, Inspector.</i>				8 cts.	
July 11	26601	1	H. Desrochers, 7 Mountain St.	0 14	
" 11	26602	2	D. Chevalier, 2265 Notre Dame St.	0 10	
" 11	26603	3	S. Cardinal, 2307 "	0 14	
" 11	26604	4	C. Guindon, 2456 "	0 14	
" 11	26605	5	L. M. Soucy, 2500 "	0 14	
" 11	26606	6	Monpetit & Co. "	0 14	
" 12	26607	7	H. McLean, 695 Wellington St.	0 12	
" 12	26608	8	" "	0 16	
" 12	26609	9	Thos. H. T. Stone, 627 "	0 20	
" 12	26610	10	" "	0 14	
" 12	26611	11	A. O. Galarneau, 624 "	0 14	
" 12	26612	12	" "	0 14	
" 12	26613	13	H. Donohoe & Co. 595 "	0 14	
" 12	26614	14	" "	0 20	
" 12	26615	15	J. A. Dionne, Congregation St.	0 16	
" 12	26616	16	" "	0 14	
" 12	26617	17	E. Desrochers, 1482 St. Catherine.	0 16	
" 12	26618	18	" "	0 10	
" 12	26619	19	P. Massicotte & Co., 1470 "	0 06	
" 12	26695	20	A. Desjardins, 1069 Demontigny.	0 10	
<i>District of Kingston—J. Hovan and A. E. Sanderson, Inspectors.</i>					
June 23	25451	1	Rigney & Hickey, Princess St., Kingston	0 14	
" 24	25452	2	W. H. McConkey, King St., Brockville	0 10	
" 24	25453	3	" " " "	0 10	
" 24	25454	4	A. E. Shaver " " "	0 10	
" 24	25455	5	" " " "	0 10	
July 22	25456	6	Peter Connall & Son, George St., Peterboro.	0 14	
" 22	25457	7	" " " "	0 10	
" 22	25458	8	Henry & Co., George St.	0 10	
" 22	25459	9	" " " "	0 10	
" 22	25460	10	E. G. MacKenzie, Charlotte St.	0 10	
" 22	25461	11	" " " "	0 10	
Aug. 11	25468	12	J. E. Chevrier, Pitt St., Cornwall.	0 10	
" 11	25469	13	J. G. Kilgour, 1st St.	0 10	
" 11	25470	14	" " " "	0 14	
" 10	25462	15	J. Bradley, Main St., Prescott	0 10	
" 10	25463	16	McDermott & McCarthy "	0 10	
" 10	25464	17	" " " "	0 10	
" 10	25465	18	C. Whitney & Son, Main St., Prescott.	0 10	
" 10	25466	19	" " " "	0 10	
" 10	25467	20	W. J. Bovaird " " "	0 10	
<i>District of Toronto.</i>					
July 18	24860	1	John Malcolm, 350 Spadina Ave.	0 10	
" 18	24861	2	L. Kelly, 380 "	0 10	
" 18	24862	3	W. Moore & Son, 402 "	0 10	
" 18	24863	4	" " " "	0 10	
" 18	24864	5	M. Moyer & Son, 408 "	0 10	
" 18	24865	6	" " " "	0 10	
" 18	24866	7	Vair Produce Co., 468 "	0 10	
" 18	24867	8	" " " "	0 10	
" 18	24868	9	M. E. Bush & Co., 285 College St.	0 10	
" 18	24869	10	" " " "	0 10	
" 19	24870	11	W. A. Sherwood, St. Paul St., St. Catharines	0 10	
" 19	24871	12	" " " "	0 08	
" 19	24872	13	Edwin Moore, St. Paul St.	0 10	
" 19	24873	14	" " " "	0 08	
" 20	24874	15	J. L. Brown, 47 McNab St., Hamilton.	0 10	
" 20	24875	16	" " " "	0 10	
" 20	24876	17	Wm. Carroll, 72 James St.	0 08	
" 20	24877	18	" " " "	0 08	

TABLE I.—INSPECTION OF VINEGAR—JULY, 1905—*Continued.*

Date of Collection.	Collector's Number.	Serial Number.	Name and Address of Vendor.	Cost per qt.	Remarks.
<i>District of Toronto—Concluded.</i>				\$ cts.	
July 20	24578	19	J. McQuarie, 11 King William, Hamilton.....	0 10	
" 20	24879	20	" " " .....	0 20	
<i>District of London—T. Kidd, Inspector.</i>					
June 21	22294	1	A. Andrews, Seaforth .....	0 20	
" 22	22299	2	O. C. Whitley, Goderich .....	0 20	
" 22	22301	3	C. J. Moore, Mitchell .....	0 20	
" 22	22296	4	J. W. Irwin, Clinton, Ont. ....	0 40	
" 26	22314	5	Pickard & Fleming, St. Mary's .....		
" 27	22315	6	A. Branston, 607 Richmond St., London .....	0 20	
" 27	22322	7	J. W. Kingswood, Ingersoll .....	0 20	
" 28	22325	8	Forbes, Whitelaw & Co., Woodstock ..	0 20	
" 28	22329	9	Solman Allen, Norwich .....	0 20	
" 28	22333	10	C. W. Grantham, Brantford .....	0 20	
" 26	22308	11	C. McIlhargey, Stratford .....	0 40	
July 6	22336	12	Stubeng & Co., Berlin .....	0 20	
" 6	22341	13	George Hasenflug, Waterloo .....	0 20	
" 7	22346	14	J. A. McCrea, Guelph .....	0 20	
" 7	22348	15	C. Schluter, Preston .....	0 20	
" 7	22350	16	Deans, Walker & Co., Galt .....	0 20	
" 10	22352	17	Adams & Co., Georgetown .....	0 20	
" 11	22357	18	M. E. Murphy, Alliston .....	0 20	
" 14	22366	19	R. H. Robinson, Orangeville .....	0 20	
" 14	22367	20	Steel Bros., Fergus .....	0 20	
" 14	22368	21	James Paterson, Fergus .....	0 20	
<i>District of Winnipeg—W. M. Conklin, Inspector.</i>					
July 14	23980	1	Wm. Muir, Brandon .....	0 20	
" 14	23981	2	J. Bower & Co. " .....	0 20	
" 14	23982	3	A. Neilly " .....	0 10	
" 14	23983	4	J. C. Lewis & Son " .....	0 10	
" 14	23984	5	P. Polaky " .....	0 10	
" 15	23985	6	Whyte & Co., Moomsomin .....	0 20	
" 15	23986	7	The R. D. McNaughton Co., Moomsomin ..	0 20	
" 17	23987	8	J. D. Brooks & Son, Indian Head .....	0 20	
" 17	23988	9	W. M. Crawford " .....	0 20	
" 17	23989	10	The McCarthy Supply Co., Regina .....	0 20	
" 17	23990	11	Karl Boes, Regina .....	0 20	
" 17	23991	12	A. Ehmann " .....	0 20	
" 18	23992	13	T. J. McCammon, Moose Jaw .....	0 20	
" 18	23994	14	McKenzie Bros. " .....	0 20	
" 3	23975	15	Hardy & Buchanan, Winnipeg .....	0 20	
" 3	23976	16	A. Macdonald " .....	0 10	
" 3	23977	17	Hartley & Co. " .....	0 20	
" 3	23978	18	W. B. Francis " .....	0 20	
" 3	23979	19	Matheson Bros. " .....	0 20	
" 3	25526	20	J. A. McKerchar " .....	0 20	
<i>District of Calgary—W. Fletcher, Inspector.</i>					
July 18	21798	1	Hatfield & McLarn, Calgary .....	0 30	
" 18	21802	2	Brown & Knight " .....	0 40	
" 21	21807	3	Canada Grocers Sta. Branch, Calgary .....	0 20	
" 21	21811	4	Codville, Smith Co. Sta. " .....	0 20	
" 22	21815	5	A. S. Cameron, Calgary .....	0 30	
" 25	21823	6	Star Trading Co., Wetaskiwin .....	0 20	
" 25	21826	7	Compton & Montgomery " .....	0 20	
" 25	21829	8	N. W. Gould " .....	0 20	
" 25	21831	9	A. R. Dickson " .....	0 20	
" 25	21833	10	Seland & Mallett " .....	0 20	

TABLE I.—INSPECTION OF VINEGAR—JULY, 1905—*Concluded.*

Date of Collection.	Collector's Number.	Serial Number.	Name and Address of Vendor.	Cost per qt.	Remarks.
<i>District of Calgary—W. Fletcher, Inspector—Con.</i>				\$ cts.	
July 27	21836	11	Hudson Bay Co., Edmonton .....	0 20	
" 27	21842	12	Revillon Bros. " .....	0 20	
" 27	21846	13	McDougall & Secord " .....	0 20	
" 27	21852	14	Williamson Bros. " .....	0 20	
" 27	21854	15	Joe Morris " .....	0 20	
" 28	21859	16	C. Sugarman, Strathcona....	0 20	
" 28	21866	17	T. P. Malone " .....	0 20	
" 28	21871	18	Douglas Bros. " .....	0 20	
" 28	21874	19	A. H. Richards & Co., Strathcona.....	0 20	
" 28	21876	20	D. L. Ghormly & Co. " .....	0 20	
<i>District of British Columbia—E. B. Purkinson, Inspector.</i>					
June 27	26919	1	H. O. Lee, Vancouver.....	0 30	
" 27	26920	2	J. Smith " .....	0 20	
" 27	26921	3	" " .....	0 30	
" 28	26925	4	The City Grocery " .....	0 10	
" 28	26926	5	McCulloch Bros. " .....	0 20	
" 29	26933	6	T. S. Annandale, New Westminster.....	0 20	
" 29	26934	7	A. J. Sinclair " .....	0 20	
July 5	26941	8	The Co-operative Society Store, Nanaimo....	0 30	
" 6	26945	9	R. Mowat, cor. Yates and Douglas sts., Victoria..	0 20	
" 6	26953	10	Fred. Crane, Victoria.....	0 20	
" 6	26959	11	Dixie H. Ross, Government, Victoria.....	0 20	
" 6	26961	12	W. A. Burt, Fort street " .....	0 20	
" 7	26964	13	W. J. Pendray " .....	0 20	
" 10	26971	14	H. Albert, Carral st., Vancouver .....	0 15	
June 29	26937	15	J. McLaggart " .....	0 20	
July 5	26942	16	Jas. Young, Nanaimo....	0 20	
Aug. 18	28012	17	C. E. Turner, Vancouver....	0 20	
" 18	28013	18	H. A. Edgett " .....	0 15	
" 18	28016	19	Geo. Wagg " .....	0 20	
" 18	28018	20	The Dominion Grocery, Vancouver.....	0 20	
" 18	28022	21	W. Clark, Vancouver.....	0 20	
" 18	28024	22	E. H. McMillan, Vancouver.....	0 20	

TABLE II.—INSPECTION OF VINEGAR—JULY, 1905.

District.	Serial Number.	Collector's Number	Acidity as Acetic Acid $C_2H_3O_2$ per cent.	Metallic Impurity.	Physical Characters.	Analyst.	Remarks.
Nova Scotia . . .	1	27003	3.79	Iron trace . . .	Fungus . . . . .	Fagan . . .	
	2	27005	4.32	" . . . . .	Sound . . . . .	" . . .	
	3	27006	4.10	" . . . . .	" . . . . .	" . . .	
	4	27010	5.76	" . . . . .	" . . . . .	" . . .	
	5	27013	1.56	" . . . . .	Slight fungus . . .	" . . .	Too low in acid strength.
	6	27016	4.39	" . . . . .	Sound . . . . .	" . . .	
	7	27018	5.85	" . . . . .	" . . . . .	" . . .	
	8	27019	3.28	" . . . . .	" . . . . .	" . . .	
	9	27022	4.24	" . . . . .	Fungus . . . . .	" . . .	
	10	27024	3.74	" . . . . .	" . . . . .	" . . .	
	11	27026	4.68	" . . . . .	Sound . . . . .	" . . .	
	12	27029	3.61	None . . . . .	" . . . . .	Bowman . .	
	13	27032	4.53	" . . . . .	" . . . . .	Fagan . . .	
	14	27037	3.84	" . . . . .	Slight fungus . . .	" . . .	
	15	27040	2.71	" . . . . .	Sound . . . . .	" . . .	Too low in acidity.
	16	27042	3.60	" . . . . .	" . . . . .	" . . .	
	17	27045	8.30	" . . . . .	" . . . . .	" . . .	Probably factitious.
	18	27051	6.64	" . . . . .	" . . . . .	" . . .	
	19	27055	5.04	Iron trace . . .	" . . . . .	" . . .	
	20	27057	3.52	" . . . . .	" . . . . .	" . . .	
New Brunswick.	1	24016	7.50	None . . . . .	" . . . . .	Ellis . . .	
	2	24017	6.75	" . . . . .	" . . . . .	Valade . .	
	3	24020	5.37	" . . . . .	" . . . . .	" . . .	
	4	24021	7.04	Trace iron . . .	" . . . . .	" . . .	
	5	24030	6.12	None . . . . .	" . . . . .	Bowman . .	
	6	24037	4.86	" . . . . .	" . . . . .	Ellis . . .	
	7	24038	3.62	" . . . . .	" . . . . .	Bowman . .	
	8	24042	3.91	" . . . . .	" . . . . .	Valade . .	
	9	24044	3.45	" . . . . .	" . . . . .	" . . .	
	10	24045	6.68	" . . . . .	" . . . . .	Bowman . .	
	11	24047	4.60	Trace iron . . .	" . . . . .	Valade . .	
	12	24074	4.38	None . . . . .	" . . . . .	" . . .	
	13	24077	4.32	Trace lead . . .	" . . . . .	" . . .	
	14	24083	3.06	" . . . . .	" . . . . .	" . . .	Too low in acidity.
	15	24084	3.96	None . . . . .	" . . . . .	" . . .	
	16	24085	6.54	Trace lead . . .	" . . . . .	" . . .	
	17	24086	4.68	None . . . . .	" . . . . .	" . . .	
	18	24092	6.30	" . . . . .	" . . . . .	" . . .	
	19	24096	4.32	" . . . . .	" . . . . .	" . . .	
	20	24100	2.88	Distinct trace lead . . . . .	" . . . . .	" . . .	" "
P. E. Island . . .	1	24435	3.54	None . . . . .	" . . . . .	Ellis . . .	
	2	24437	4.25	" . . . . .	Slightly turbid . .	Bowman . .	
	3	24441	5.17	" . . . . .	Sound . . . . .	Valade . .	
	4	24443	7.98	" . . . . .	" . . . . .	Ellis . . .	Probably factitious.
	5	24447	5.06	" . . . . .	" . . . . .	Valade . .	
	6	24451	3.42	" . . . . .	" . . . . .	Ellis . . .	
	7	24455	5.41	" . . . . .	" . . . . .	Bowman . .	
	8	24459	9.72	" . . . . .	" . . . . .	Ellis . . .	" "
	9	24462	3.99	" . . . . .	" . . . . .	Valade . .	
	10	24465	5.13	Traces . . . . .	Deposit . . . . .	Donald . .	
	11	24470	3.44	None . . . . .	Sound . . . . .	Bowman . .	
	12	24472	3.27	" . . . . .	" . . . . .	" . . .	
	13	24474	4.99	" . . . . .	" . . . . .	" . . .	
	14	24476	3.07	" . . . . .	" . . . . .	" . . .	Too low in acidity.
	15	24479	7.07	" . . . . .	" . . . . .	" . . .	
	16	24481	4.40	" . . . . .	Muddy . . . . .	" . . .	
	17	24483	6.95	" . . . . .	Sound . . . . .	Valade . .	
	18	24485	3.40	" . . . . .	" . . . . .	Bowman . .	
	19	24488	5.36	" . . . . .	" . . . . .	" . . .	
	20	24493	4.77	" . . . . .	" . . . . .	" . . .	
Quebec . . . . .	1	27548	5.68	Trace iron . . .	" . . . . .	Fagan . . .	
	2	27549	5.73	" . . . . .	" . . . . .	" . . .	
	3	27550	6.31	" . . . . .	" . . . . .	" . . .	
	4	27551	9.04	" . . . . .	" . . . . .	" . . .	Probably factitious.
	5	27552	7.40	None . . . . .	" . . . . .	Bowman . .	

TABLE II.—INSPECTION OF VINEGAR—JULY, 1905—Continued.

District.	Serial Number.	Collector's Number	Acidity as Acetic Acid $C_2H_4O_2$ per cent.	Metallic Impurity.	Physical Characters.	Analyst.	Remarks.
Quebec—Con....	6	27553	6.38	Trace iron..	Sound.....	Fagan...	Probably factitious.
	7	27554	9.15	None.....	Slight deposit..	Donald...	
	8	27555	6.61	".....	Sound.....	Bowman...	
	9	27556	6.46	Trace zinc..	".....	".....	
	10	27545	6.06	None.....	".....	Ellis...	
	11	27546	5.34	Traces.....	Somewhat turbid..	Donald...	
	12	27547	6.78	None.....	Sound.....	Ellis...	
	13	27563	6.12	".....	".....	".....	
	14	27564	5.82	Trace lead..	Slightly turbid..	".....	
	15	27557	5.88	None.....	Bad odour.....	Fagan...	
	16	27558	9.26	".....	Sound.....	".....	
	17	27559	6.40	".....	".....	".....	
	18	27560	5.72	".....	".....	".....	
	19	27561	6.45	".....	".....	".....	
	20	27562	7.07	".....	".....	Bowman...	
St. Hyacinthe ..	1	24532	6.80	".....	Slightly turbid..	Valin...	
	2	24533	4.86	".....	Some mother.....	Donald...	
	3	24534	4.50	".....	Clear.....	Valin...	
	4	24535	6.90	".....	Sound.....	".....	
	5	24536	7.20	".....	".....	".....	
	6	24537	5.20	".....	".....	".....	
	7	24538	6.48	Trace.....	Slight turbidity..	Donald...	
	8	24539	6.42	".....	".....	".....	
	9	24540	6.70	None.....	".....	Valin...	
	10	24541	5.16	Trace.....	Very turbid.....	Donald...	
	11	24542	4.77	".....	Turbid.....	".....	
	12	24543	7.92	".....	".....	".....	
	13	24544	6.10	None.....	Sound.....	Valin...	
	14	24545	4.92	Trace.....	".....	Donald...	
	15	24546	4.20	".....	".....	Valin...	
	16	24547	4.70	".....	".....	".....	
	17	24548	6.40	".....	".....	".....	
	18	24549	6.30	".....	".....	".....	
	19	24550	7.30	Trace.....	Sound.....	".....	
Montreal.....	20	24551	5.40	".....	".....	".....	
	1	26601	5.52	None.....	".....	Ellis...	
	2	26602	6.95	Trace iron..	".....	Valade...	
	3	26613	6.60	None.....	".....	Ellis...	
	4	26604	7.74	".....	".....	".....	
	5	26605	6.12	Trace lead..	".....	".....	
	6	26606	6.12	None.....	Heavy deposit..	Donald...	
	7	26607	5.08	".....	Sound.....	Bowman...	
	8	26608	5.11	".....	".....	".....	
	9	26609	4.71	".....	".....	Valade...	
	10	26610	5.47	".....	".....	Bowman...	
	11	26611	4.43	Trace iron..	".....	Valade...	
	12	26612	5.52	None.....	".....	Ellis...	
	13	26613	5.44	".....	".....	Bowman...	
	14	26614	5.62	".....	".....	Ellis...	
	15	26615	4.86	".....	".....	".....	
	16	26616	5.34	".....	".....	".....	
	17	26617	6.94	".....	".....	Bowman...	
	18	26618	5.82	".....	".....	Ellis...	
	19	26619	5.09	".....	".....	Valade...	
Kingston.....	20	26695	6.90	".....	".....	".....	
	1	25451	6.00	".....	".....	".....	
	2	25452	5.54	".....	".....	".....	
	3	25453	6.76	".....	".....	Bowman...	
	4	25454	4.43	".....	".....	Valade...	
	5	25455	4.51	".....	".....	".....	
	6	25456	5.34	Trace iron..	".....	Fagan...	
	7	25457	5.16	None.....	".....	".....	
	8	25458	5.41	".....	".....	Bowman...	
	9	25459	4.34	".....	".....	Fagan...	
	10	25460	5.49	".....	Slight fungus..	".....	
	11	25461	5.13	".....	Sound.....	".....	
	12	25462	4.92	".....	".....	".....	

TABLE II.—INSPECTION OF VINEGAR—JULY, 1905—*Continued.*

District.	Serial Number.	Collector's Number	Acidity as Acetic Acid. $C_2H_3O_2$ per cent.	Metallic Impurity.	Physical Character.	Analyst.	Remarks.
Kingston—Con.	13	25469	4.98	None.....	Sound.....		
	14	25470	7.68	".....	".....		
	15	25462	4.26	".....	".....		
	16	25463	4.38	Trace lead..	".....		
	17	25464	4.44	None.....	".....		
	18	25465	4.50	Trace lead..	".....		
	19	25466	5.46	None.....	Turbid.....		
	20	25467	4.92	Trace lead..	Sound.....		
	1	24860	4.37	Trace iron..	".....	Valade..	
	2	24861	5.49	None.....	".....	".....	
Toronto.....	3	24862	4.45	".....	".....	".....	
	4	24863	5.52	".....	".....	".....	
	5	24864	2.39	".....	".....	".....	Too low in acidity.
	6	24865	4.90	".....	".....	Bowman..	
	7	24866	5.66	".....	".....	Valade..	
	8	24867	5.00	".....	".....	".....	
	9	24868	4.97	Trace iron..	".....	".....	
	10	24869	4.80	" zinc..	".....	Bowman..	
	11	24870	4.98	None.....	".....	Ellis..	
	12	24871	4.14	".....	".....	".....	
	13	24872	5.82	".....	".....	".....	
	14	24873	4.80	".....	".....	".....	
	15	24874	5.58	".....	".....	Bowman..	
	16	24875	3.58	".....	".....	".....	
	17	24876	5.35	".....	".....	".....	
	18	24877	5.52	".....	".....	Ellis..	
	19	24878	1.92	".....	".....	".....	Too low in acidity.
	20	24879	6.00	".....	".....	".....	
London.....	1	22294	4.50	".....	".....	Valin..	
	2	22299	5.31	".....	Heavy deposit	Donald..	
	3	22301	4.70	".....	Sound.....	Valin..	
	4	22306	3.80	".....	".....	".....	
	5	22314	4.74	".....	".....	Valade..	
	6	22315	3.65	".....	".....	".....	
	7	22322	.....	.....	Sample missing.	".....	Broken in transit.
	8	22325	4.60	Trace lead..	Sound.....	Ellis..	
	9	22329	9.20	".....	".....	".....	Probably factitious.
	10	22353	4.63	None.....	".....	Valade..	
	11	22308	5.80	".....	".....	Valin..	
	12	22336	5.41	".....	".....	Bowman..	
	13	22341	4.08	".....	".....	Valade..	
	14	22346	4.29	".....	".....	Bowman..	
	15	22348	6.34	".....	".....	".....	
	16	22350	5.34	".....	".....	Ellis..	
	17	22352	5.33	".....	".....	Valade..	
	18	22357	4.45	".....	".....	".....	
	19	22366	5.40	".....	".....	".....	
	20	22367	5.29	".....	".....	".....	
Manitoba.....	21	22368	4.31	".....	".....	Ellis..	
	1	23980	4.92	".....	".....	".....	
	2	23981	4.74	".....	".....	".....	
	3	23982	12.60	".....	".....	".....	Probably factitious.
	4	23983	4.62	".....	Slightly turbid.	Donald..	
	5	23984	6.60	".....	Deposit.....	".....	
	6	23985	4.80	".....	Sound.....	Ellis..	
	7	23986	4.68	Trace.....	Slight deposit.	Donald..	
	8	23987	10.80	None.....	Sound.....	Ellis..	" "
	9	23988	4.44	".....	Deposit.....	Donald..	
	10	23989	10.92	".....	Sound.....	".....	" "
	11	23990	4.74	Trace.....	".....	".....	
	12	23991	7.60	None.....	".....	Ellis..	
	13	23992	8.88	".....	".....	Donald..	" "
	14	23974	7.82	Trace iron..	".....	Fagan..	
	15	23975	5.59	".....	".....	".....	
	16	23976	6.48	Trace iron..	".....	".....	



TABLE II.—INSPECTION OF VINEGAR—JULY, 1905—*Concluded.*

District.	Serial Number.	Collector's Number	Acidity as Acetic Acid, $C_2H_3O_2$ , per cent.	Metallic Impurity.	Physical Character.	Analyst.	Remarks.
Manitoba—Con.	17	23977	5.50	None.....	Sound.....	Fagan....	
	18	23978	5.42	Trace iron..	".....	".....	
	19	23979	6.06	None.....	".....	Bowman..	
	20	23526	4.80	".....	".....	Donald..	
Calgary .....	1	21796	5.40	".....	Slight deposit..	".....	
	2	21802	5.46	Trace.....	Turbid.....	".....	
	3	21807	5.49	".....	".....	".....	
	4	21811	9.69	".....	Sound.....	".....	Probably factitious.
	5	21815	3.87	None.....	A little 'mother' of vinegar	".....	
	6	21823	8.94	".....	Sound.....	".....	
	7	21826	2.22	".....	".....	".....	Too low acidity.
	8	21829	6.42	".....	".....	".....	
	9	21831	4.32	".....	".....	".....	
	10	21833	10.38	".....	".....	".....	Probably factitious.
	11	21836	5.19	Trace.....	Mother of vinegar 'ferment.	".....	
Br. Columbia...	12	21842	5.25	".....	".....	".....	
	13	21846	5.73	None.....	Sound.....	".....	
	14	21852	9.93	".....	".....	".....	"
	15	21854	11.04	".....	".....	".....	"
	16	21859	10.56	".....	".....	".....	"
	17	21866	4.83	".....	".....	".....	"
	18	21871	11.97	".....	".....	".....	"
	19	21874	7.68	".....	".....	".....	"
	20	21876	9.48	".....	".....	".....	"
	1	26919	9.78	".....	".....	Ellis....	"
	2	26920	5.28	".....	".....	".....	"
	3	26921	9.71	Trace iron..	".....	Valade...	"
	4	26925	9.30	None.....	".....	Ellis....	"
	5	26926	10.86	".....	".....	".....	"
	6	26933	5.04	".....	".....	".....	"
	7	26943	4.32	".....	".....	".....	"
	8	26941	9.77	".....	".....	Valade...	"
	9	26945	5.44	".....	".....	Bowman..	"
	10	26953	2.55	Trace lead..	Muddy.....	".....	Too low acidity.
	11	26959	4.97	None.....	Sound.....	".....	
	12	26961	3.71	".....	".....	Valade...	
	13	26964	4.01	".....	Muddy.....	Bowman..	
	14	26971	4.17	".....	Sound.....	Valade...	
	15	26937	4.87	".....	".....	".....	
	16	26942	5.23	".....	".....	".....	
	17	28012	9.06	".....	".....	".....	Probably factitious.
	18	28013	4.26	".....	".....	".....	
	19	28016	9.00	".....	".....	".....	"
	20	28018	4.32	".....	".....	".....	
	21	28022	10.56	".....	".....	".....	"
	22	28024	4.80	".....	".....	".....	